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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/727,646 | 11/30/2000 | Manecsh Agrawala | 10742-004-999 | 5146 |

7590 06/29/2004

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| EXAMINER |
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BRODA, SAMUEL

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| ART UNIT | PAPER NUMBER |
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2123

12

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 09/727,646 | Applicant(s) AGRAWALA ET AL. | |
| | Examiner Samuel Broda | Art Unit 2123 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-111 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-111 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 34-51, drawn to a method, computer program product, and system for positioning a plurality of labels in a route map using two scores determined by a target function, classified in class 703, subclass 2.
 - II. Claims 61-71, drawn to methods of adding one or more cross streets and labels to a route map, including use of perturbation steps, classified in class 703, subclass 2.
 - III. Claims 84-89, 92-97, and 100-105, drawn to a method, computer program product, and system for optimizing the display of a route map, including approximating the shape of a road as a piecewise linear curve and further modifying the road shape if false intersections are found, classified in class 703, subclass 2.
 - IV. Claims 90-91, 98-99, and 106-107, drawn to a method, computer program product, and system for simplifying a ramp using a relevance computation, classified in class 703, subclass 2.
 - V. Claim 109-111, drawn to a methods for preparing a route map, including refining a scale factor or a label position against a target function, classified in class 703, subclass 2.

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- VI. Claims 1-15, drawn to a method, computer program product, and system for optimizing a display of a route map, including a rotation, classified in class 715, subclass 517.
- VII. Claims 16-33, drawn to a method, computer program product, and system for placing an annotation or label in a route map by performing a grid subdivision scheme including a ranking based on a density objects, classified in class 715, subclass 517.
- VIII. Claims 52-60, drawn to a method, computer program product, and system for preparing a route map including selecting an image component based on a function of height and width, classified in class 715, subclass 517.
- IX. Claims 72-74, 76-78, and 80-82, drawn to a method, computer program product, and system for optimizing a display of a route, including identifying breakpoints used to form a set of segment maps to comprise the route map, classified in class 715, subclass 517.
- X. Claims 75, 79, and 83, drawn to a method, computer program product, and system for preparing an inset for a route map, including identifying a set of contiguous elements that are used to form the inset, classified in class 715, subclass 517.

1.1 Inventions of Groups I through X are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable.

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In the instant case, a table of separate utilities for each Group is shown below:

| <u>Group</u> | <u>Separate Utility</u> |
|--------------|---|
| I | automation of label position |
| II | addition of labels using a fast perturbation method |
| III | simplification of road display without introduction of errors |
| IV | simplification of a ramp using easily calculated relevance |
| V | preparation of route maps using different scale factors, permitting comparison of results |
| VI | optimization of display by rotation to improve human readability |
| VII | annotation or label placement designed to prevent overlapping text |
| VIII | route map preparation optimized by size constraints |
| IX | segmentation of maps permits user to quickly locate and/or display map subsections |
| X | inset permits additional information to be conveyed in map |

These separate uses distinguish the invention of each of Groups I through X from one another. Therefore, the invention of each of Groups I through V is a separately useable subcombination. See MPEP § 806.05(d).

1.2 Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and/or recognized divergent subject matter, restriction for examination purposes as indicated is proper.

1.3 Because the requirement for restriction is complex, no telephone communication was made. See MPEP § 812.01.

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1.4 Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

1.5 Applicants are advised that a reply to this requirement must include an election of the invention to be examined, even though the requirement may be traversed under 37 CFR 1.143.

2. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samuel Broda, whose telephone number is (703) 305-1026. The Examiner can normally be reached on Mondays through Fridays from 8:00 AM – 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kevin Teska, can be reached on (703) 305-9704. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (703) 305-3900.



SAMUEL BRODA, ESQ.
PRIMARY EXAMINER